QUIZ NAVIGATION

1 2 3 4 5
6 7 8 9 10

Show one page at a time

Finish review

Started on	Friday, 11 October 2024, 6:42 PM
State	Finished
Completed on	Friday, 11 October 2024, 6:46 PM
Time taken	4 mins 21 secs
Grade	**7.00** out of 10.00 (**70%**)

Question 1

ID: 50288

Correct

Flag question

Send Feedback

A physician at your clinic would like to talk to you about starting your mutual patient, CK, on a Tricyclic Antidepressant (TCA).

CK is a 76-year-old male who has been diagnosed with Major Depressive Disorder (MDD) for 5 years. He has tried various first-line antidepressants and non-pharmacological treatment strategies during this time but has not experienced remission. His main goal of therapy is to improve functioning and quality of life. At this point, CK and his physician have decided to try second-line treatment options. Since CK is elderly, his physician is particularly concerned about the Anticholinergic (ACH) side effects which may occur with many second-line treatment options.

Which of the following antidepressants will have the **LOWEST** incidence of anticholinergic side effects?

Select one:

a. Trimipramine ✖

b. Amitriptyline ✖

c. Desipramine ✔

Rose Wang (ID:113212) this answer is correct. Desipramine is a secondary amine TCA which has a lower incidence of ACH side effects compared to tertiary amine TCAs.

d. Doxepin ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Identify which medications carry a higher relative risk of anticholinergic side effects.

BACKGROUND:

Second-line therapies for depression include levomilnacipran (SNRI), moclobemide (reversible Monoamine Oxidase Inhibitors, MAOIs), quetiapine, trazodone, Tricyclic Antidepressants (TCAs) and vilazodone. TCAs include the tertiary amines amitriptyline, clomipramine, doxepin, trimipramine and imipramine, and the secondary amines desipramine and nortriptyline. Third-line antidepressants include the irreversible MAOIs phenelzine and tranylcypromine. TCAs are reserved as second-line agents due to their unfavourable side effect profiles. Cardiotoxicity and the risk of fatal overdoses are major safety concerns of TCAs. This class should generally be avoided in patients at risk of intentional overdose. Common side effects of this group of agents includes sedation, weight gain, sexual dysfunction, GI upset, QT prolongation, hypotension and anticholinergic effects (e.g. dry mouth, orthostatic hypotension, constipation, drowsiness, blurred vision and memory impairment). Of note, the secondary amine TCAs are generally better tolerated, in terms of side effects, compared to the tertiary amines. In particular, desipramine and nortriptyline have less anticholinergic side effects and less weight gain than the tertiary amines.

RATIONALE:

Correct Answer:

- **Desipramine** - Desipramine is a secondary amine TCA which has a lower incidence of ACH side effects compared to tertiary amine TCAs.

Incorrect Answers:

- **Trimipramine** - Trimipramine is a tertiary amine TCA which has a greater incidence of ACH side effects compared to secondary amine TCAs.
- **Amitriptyline** - Amitriptyline is a tertiary amine TCA which has a greater incidence of ACH side effects

1 2 3 4 5
6 7 8 9 10

Show one page at a time

Finish review

Time taken 4 mins 21 secs

Grade 7.00 out of 10.00 (70%)

Question 1

ID: 50288

Correct

Flag question

Send Feedback

A physician at your clinic would like to talk to you about starting your mutual patient, CK, on a Tricyclic Antidepressant (TCA).

CK is a 76-year-old male who has been diagnosed with Major Depressive Disorder (MDD) for 5 years. He has tried various first-line antidepressants and non-pharmacological treatment strategies during this time but has not experienced remission. His main goal of therapy is to improve functioning and quality of life. At this point, CK and his physician have decided to try second-line treatment options. Since CK is elderly, his physician is particularly concerned about the Anticholinergic (ACH) side effects which may occur with many second-line treatment options.

ID: 50289

Correct

Flag question

Send Feedback

Which of the following antidepressants will have the **LOWEST** incidence of anticholinergic side effects?

Select one:

a. Trimipramine ✖

b. Amitriptyline ✖

medication was prescribed following her second episode of depression. Her first episode was a Major Depressive Episode (MDE) 3 years ago, after which she went into remission using Cognitive Behavioural Therapy (CBT). MG spoke to her doctor about trying antidepressant therapy but she is nervous about the potential side effects.

Which of the following counselling points is **LEAST** important to provide to MG?

Select one:

a. Starting with a low initial dose and increasing gradually may help minimize side effects ✖

b. Insomnia and Gastrointestinal (GI) upset are common side effects of fluoxetine and may subside within 2 weeks ✖

c. This is the lowest dose of fluoxetine which is unlikely to cause side effects ✔

Rose Wang (ID:113212) this answer is correct. This is a starting dose of fluoxetine which will likely need to be titrated up to a maintenance dose. MG may still experience side effects at this dose and throughout treatment.

d. If side effects become bothersome, MG may try switching to another antidepressant class ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Understand important counselling points about side effect management when initiating new antidepressant therapy.

BACKGROUND:

Major depressive disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which identify symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality. Important considerations when selecting an antidepressant include the antidepressant side effect profile, patient's comorbid conditions, patient preference, potential interactions with other medications, and cost and convenience. TCAs are second-line due to their side effect profile. The onset of therapeutic effects for antidepressants is usually 2-4 weeks. Improvement is defined as a 20 to 30% or greater reduction in symptoms after 2-4 weeks of therapy, where improvement is assessed using a validated depression rating scale. In the case of no improvement at maximally tolerated doses, the antidepressant should be switched to another first-line antidepressant with superior efficacy. Alternatively, adding-on therapy can be considered. This is described as augmentation therapy and the first-line adjunctive agents that have shown superior efficacy include aripiprazole, quetiapine, and risperidone. Antipsychotic-associated body temperature dysregulation and heat stroke is an important adverse event to consider and prevent with hydration and sun protection. Patients taking antipsychotics may have impaired ability to regulate their own body temperatures thus during hot and humid weather, patients using antipsychotics are at risk of developing excessive body temperature. Thus in periods of high temperature and humidity, patients should try to keep cool by keeping windows, shades, and blinds shut during the heat. Patients may open windows in the evening or night hours when the air outside is cooler. In addition, patients should avoid overexertion during warmer periods of the day, drink plenty of hydrating fluids (avoid coffee, tea, and alcoholic beverages), and dress in light-coloured and loose fitting clothing. Side effects of Selective Serotonin Reuptake Inhibitors (SSRIs) include insomnia (especially fluoxetine and sertraline which are more activating) or drowsiness, sexual dysfunction and Gastrointestinal (GI) upset. The CNS and GI side effects normally subside within 2 weeks; however, sexual dysfunction could persist for the duration of treatment. Additionally, when initiating an SSRI or increasing the dose, anxiety and agitation are common side effects that may occur; however, they usually subside within a few weeks. SSRIs can increase the risk of GI bleeding and should be used with caution in individuals at higher risk of GI bleeding (such as concomitant NSAID use). In addition, fluoxetine has a uniquely long half-life of 4-6 days (9 days for active metabolite norfluoxetine), allowing for faster tapering upon discontinuation compared to other SSRIs. A meta-analysis comparing escitalopram to citalopram found that escitalopram, the stereoisomer of citalopram, was superior in efficacy, but comparable in adverse events to citalopram. Both citalopram and escitalopram carry the greatest risk amongst the SSRIs of prolongation of QTc. In addition, paroxetine has the greatest anticholinergic effects and causes the greatest amount of weight gain among the SSRI drug class. Once treatment is started, patients should be monitored for side effects to the antidepressant, improvement in their emotional, and physical symptoms, and improvement in their functionality. These parameters need to be measured at different times because the drugs often affect each category differently. When monitoring for side effects, if a patient has suicidal thoughts, they should be followed up within 3 days. If the patient does not have suicidal thoughts at the start of therapy, side effects should be assessed at 1-2 weeks. It can take 2-8 weeks to see the benefit for emotional and physical symptoms. To see a meaningful effect on functionality, it can take up to 12 months.

RATIONALE:

Correct Answer:

- **This is the lowest dose of fluoxetine which is unlikely to cause side effects** - This is a starting

dose of fluoxetine which will likely need to be titrated up to a maintenance dose. MG may still experience side effects at this dose and throughout treatment.

Incorrect Answers:

- **Starting with a low initial dose and increasing gradually may help minimize side effects** - Starting with a low initial dose and gradually increasing as tolerated, can help minimize the side effects of antidepressants.
- **Insomnia and Gastrointestinal (GI) upset are common side effects of fluoxetine and may subside within 2 weeks** - These are common side effects which normally subside within 2 weeks.
- **If side effects become bothersome, MG may try switching to another antidepressant class** - This is an appropriate strategy to manage the side effects of antidepressants.

TAKEAWAY/KEY POINTS:

There are a number of common side effects that patients may experience when starting new antidepressant therapy. They can be managed by using a slow taper method, or if they are still not tolerable, switching to a different antidepressant class. Some side effects may subside on their own over time, so patient reassurance and monitoring are especially important during the first few weeks of therapy.

REFERENCE:

[1] Yatham LN, Kennedy SH, Parikh SV, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder. Bipolar Disord. 2018;20(2):97-170. doi:10.1111/bdi.12609.
[2] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.

The correct answer is: This is the lowest dose of fluoxetine which is unlikely to cause side effects

Question 3

ID: 50291

Incorrect

Flag question

Send Feedback

FT is a 42-year-old male patient who has been taking a therapeutic dose of venlafaxine for 2 months and reports some improvement in his symptoms. He continues to have difficulty concentrating, occasional thoughts of death but never suicide, and a depressed mood 1 to 2 days a week. He tells you that there is an improvement in his appetite and his sleep, and he has a desire to exercise. He is currently on the highest effective dose without any adverse effects. Previous to venlafaxine, FT had trialled an 8-week course of citalopram 20 mg PO daily, which did not improve his depressive symptoms.

What is your recommendation for the next steps in FT's treatment?

Select one:

a. Increase the dose of venlafaxine and continue for 8 weeks ✖

Rose Wang (ID:113212) this answer is incorrect. The patient is already on the highest effective dose. Increasing the dose further will only increase the risk of adverse effects with no additional benefits.

b. Add quetiapine XL to the regimen as augmentation therapy ✔

c. Cross-titrate to a different antidepressant class ✖

d. Continue the current regimen for 8 weeks and monitor for efficacy ✖

Incorrect

Marks for this submission: 0.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Determine the best course of action when a patient finds improvement but no remission at 8 weeks of therapy.

BACKGROUND:

Major depressive disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which identify symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality.

Various antidepressants have been developed and tested to treat MDD. Different classes have different side effect profiles, and drug interaction profiles. Generally speaking, first-line options are tried first based on patient characteristics (comorbidities, drug interactions, cost etc.).

Once treatment is started, patients should be monitored for side effects to the antidepressant, improvement in their emotional, and physical symptoms, and improvement in their functionality. These parameters need to be measured at different times because the drugs often affect each category differently.

When monitoring for side effects, if a patient has suicidal thoughts, they should be followed up within 3 days. If the patient does not have suicidal thoughts at the start of therapy, side effects should be assessed at 1-2 weeks. It can take 2-8 weeks to see the benefit for emotional and physical symptoms. To see a meaningful effect on functionality, it can take up to 12 months.

The onset of therapeutic effects for antidepressants is usually 2-4 weeks. Improvement is defined as a 20 to 30% or greater reduction in symptoms after 2-4 weeks of therapy, where improvement is assessed using a validated depression rating scale. In the case of no improvement at maximally tolerated doses, the antidepressant should be switched to another first-line antidepressant with superior efficacy. Alternatively, adding-on therapy can be considered. This is described as augmentation therapy and the first-line adjunctive agents that have shown superior efficacy include aripiprazole, quetiapine, and risperidone

Antipsychotic-associated body temperature dysregulation and heat stroke is an important adverse event to consider and prevent with hydration and sun protection. Patients taking antipsychotics may have impaired ability to regulate their own body temperatures thus during hot and humid weather, patients using antipsychotics are at risk of developing excessive body temperature. Thus in periods of high temperature and humidity, patients should try to keep cool by keeping windows, shades, and blinds shut during the heat. Patients may open windows in the evening or night hours when the air outside is cooler. In addition, patients should avoid overexertion during warmer periods of the day, drink plenty of hydrating fluids (avoid coffee, tea, and alcoholic beverages), and dress in light-coloured and loose-fitting clothing.

RATIONALE:

Correct Answer:

- **Add quetiapine XL to the regimen as augmentation therapy** - Since FT has achieved partial improvement on the second antidepressant he's tried, augmentation is an appropriate next step to achieve further improvement in symptoms.

Incorrect Answers:

- **Increase the dose of venlafaxine and continue for 8 weeks** - The patient is already on the highest maximum dose. Increasing the dose further will only increase the risk of adverse effects with no additional benefits.
- **Cross-titrate to a different antidepressant class** - Since FT has achieved partial improvement and this is the second antidepressant he's tried, it may be more beneficial to attempt augmentation instead of switching drug classes.
- **Continue the current regimen for 8 weeks and monitor for efficacy** - Full effects should be seen by 6-8 weeks once the patient is on a therapeutic dose. Hence, there is no need to wait longer to achieve further efficacy.

TAKEAWAY/KEY POINTS:

Generally, if patients find improvement but not remission at 8 weeks on an antidepressant, it is reasonable to trial other antidepressants to obtain remission with monotherapy. If multiple trials of monotherapy at therapeutic doses are unable to achieve remission, augmentation is an appropriate option.

REFERENCES:

[1] Yatham LN, Kennedy SH, Parikh SV, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder. Bipolar Disord. 2018;20(2):97-170. doi:10.1111/bdi.12609
[2] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca

The correct answer is: Add quetiapine XL to the regimen as augmentation therapy

Question 4

ID: 50302

Incorrect

Flag question

Send Feedback

RD is a 28-year-old female who has just given birth to her second child 1 month ago. She is visiting your family health team today with symptoms that are consistent with postpartum depression. She is currently breastfeeding and it is very important to her that she continues to do so.

RD is otherwise healthy with no other medical conditions and no known allergies. She is currently taking a postnatal vitamin daily and she is not on any other medications.

Which of the following statements regarding treatment options for depression in breastfeeding patients is **FALSE**?

Select one:

a. First-line treatment options are Cognitive Behavioural Therapy (CBT) and Interpersonal Therapy (IPT) ✖

b. Second-line treatment options are citalopram, escitalopram, and sertraline ✖

Rose Wang (ID:113212) this answer is incorrect. These antidepressants are appropriate second-line options for breastfeeding patients.

c. Electroconvulsive Therapy (ECT) is contraindicated in breastfeeding ✔

d. The Tricyclic Antidepressants (TCAs), except doxepin, can be considered third-line options ✖

Incorrect

Marks for this submission: 0.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Understand safe and effective treatment options in patients who are breastfeeding.

BACKGROUND:

Major depressive disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which identify symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality. Non-pharmacologic and pharmacologic therapy are the mainstay of treatment. For breastfeeding patients with postpartum

depression, psychotherapy is considered first-line, unless the illness is more severe, in which case pharmacological therapy is recommended. Second-line treatment includes the pharmacological agents sertraline, citalopram, or escitalopram. Third-line treatment includes fluoxetine, paroxetine and TCAs (except doxepin). Doxepin should be avoided in breastfeeding women due to adverse effects on the breastfed infant. Psychological treatment, including Cognitive-Behavioural Therapy (CBT), Behavioural Activation (BA) and Interpersonal Therapy (IPT), are considered first-line and are as effective as medication for mild to moderate depression. CBT helps individuals analyze and improve their negative thoughts and behaviours that may be affecting their mood. BA aims to increase the individual's participation in activities they enjoy and reduce their participation in activities that increase their depressive symptoms. IPT is an intervention that focuses on improving the patient's relationships with other people. Non-drug measures may be used as monotherapy or in conjunction with drug therapy. Regular physical exercise is recommended as first-line monotherapy for mild-to-moderate depression and as an adjunct to pharmacotherapy and/or psychotherapy in moderate to severe depression. The recommended amount of exercise is at least 30 minutes of moderate-intensity exercise, either aerobic or resistance type, at least three times weekly for a minimum of 9 weeks. Neurostimulation is an evolving area of research in depression. It includes Electroconvulsive Therapy (ECT), repetitive Transcranial Magnetic Stimulation (rTMS), transcranial Direct Current Stimulation (tDCS), Vagus Nerve Stimulation (VNS). These treatments use electrical or magnetic stimulation to target and modulate the nervous system activity in specific areas of the brain. They may be considered in treatment-resistant depression.

RATIONALE:

Correct Answer:

- **Electroconvulsive Therapy (ECT) is contraindicated in breastfeeding** - ECT is safe and effective in breastfeeding patients for severe, psychotic, or treatment-resistant depression.

Incorrect Answers:

- **First-line treatment options are Cognitive Behavioural Therapy (CBT) and Interpersonal Therapy (IPT)** - These treatment options are appropriate first-line options for breastfeeding patients.
- **Second-line treatment options are citalopram, escitalopram, and sertraline** - These antidepressants are appropriate second-line options for breastfeeding patients.
- **The Tricyclic Antidepressants (TCAs), except doxepin, can be considered third-line options** - TCAs, excluding doxepin, are appropriate third-line options for breastfeeding patients.

TAKEAWAY/KEY POINTS:

For breastfeeding patients with postpartum depression, psychotherapy is considered first-line, unless the illness is more severe, in which case pharmacological therapy is recommended. If pharmacological therapy is considered, the antidepressants of choice are sertraline, citalopram, or escitalopram. Beyond this, many other antidepressants may be used safely, with the exception of doxepin, which should be avoided in patients who are breastfeeding.

REFERENCE:

[1] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.

The correct answer is: Electroconvulsive Therapy (ECT) is contraindicated in breastfeeding

Question 5

ID: 50303

Incorrect

Flag question

Send Feedback

DT is a 27-year-old female who is visiting your clinic to receive an assessment for Major Depressive Disorder (MDD).

She is currently on the following medications for the specified indications:

- **Levonorgestrel 100 mcg / ethinyl estradiol 20 mcg PO daily for contraception**
- **Gabapentin 300 mg PO TID for chronic neck pain**
- **Vitamin D3 1000 units PO daily for general maintenance of health**

DT has no known allergies and no other medical conditions other than those listed above.

How many risk factors for depression does DT have?

Select one:

a. 2 ✖

b. 3 ✖

Rose Wang (ID:113212) this answer is incorrect. This is not the correct number of risk factors.

c. 4 ✔

d. 5 ✖

Incorrect

Marks for this submission: 0.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Recognize the risk factors for Major Depressive Disorder (MDD).

BACKGROUND:

Major Depressive Disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which identify symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality. Risk factors for depression include the following:

- Females (males catch up later in life)
- Age: 25-44 (but also in teenagers)
- Family history (first-degree relative)
- Significant stressors
- Traumatic life events
- Chronic medical conditions: e.g. diabetes, cardiovascular disease
- Chronic pain conditions and neurological disorders

In theory, any drug that crosses the blood-brain barrier may cause depression. Some more common drug causes of depression include:

- Corticosteroids, ACH drugs
- Sedative-hypnotics, alcohol
- L-DOPA
- Isotretinoin
- Anticancer drugs
- Oral contraceptives
- Beta-blockers, clonidine, methyldopa
- Reserpine
- Interferon alpha

RATIONALE:

Correct Answer:

- **4** - DT's risk factors include female gender, age between 25 - 44, chronic pain condition, and oral contraceptive therapy.

Incorrect Answers:

- **2 OR 3 OR 5** - This is not the correct number of risk factors.

TAKEAWAY/KEY POINTS:

There are a number of risk factors and drug causes for depression including gender, age, family history, significant stressors, traumatic life events, chronic medical conditions, oral contraceptive use and chronic pain or neurological conditions.

REFERENCE:

[1] Yatham LN, Kennedy SH, Parikh SV, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder. Bipolar Disord. 2018;20(2):97-170. doi:10.1111/bdi.12609.
[2] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.

The correct answer is: 4

Question 6
ID: 50304
Correct
Flag question
Send Feedback

All of the following are goals of therapy for managing depression **EXCEPT**:

Select one:

a. Achieve remission of depressive symptoms ✖
b. Restore optimal daily functioning ✖
c. Prevent the occurrence of suicide ✖
d. Avoid the need for pharmacological therapy ✔

Rose Wang (ID:113212) this answer is correct. Pharmacological therapy is the cornerstone of depression management.

Correct
Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Understand the goals of therapy for depression.

BACKGROUND:

Major depressive disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which looks at symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality.

Goals of therapy include:

- Achieving remission
- Prevention of suicide
- Restoration of baseline functional status
- Prevention of relapse

RATIONALE:

Correct Answer:

- **Avoid the need for pharmacological therapy** - Pharmacological therapy is the cornerstone of depression management.

Incorrect Answers:

- **Achieve remission of depressive symptoms** - This is a goal of therapy.
- **Prevent the occurrence of suicide** - This is a goal of therapy.
- **Restore optimal daily functioning** - This is a goal of therapy.

TAKEAWAY/KEY POINTS:

The goals of therapy are to achieve remission of symptoms (full remission may not be possible but it is a goal), restore function and quality of life, prevent recurrent and suicide. Pharmacological therapy is often the cornerstone of the management of MDD.

REFERENCE:

[1] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.

The correct answer is: Avoid the need for pharmacological therapy

Question 7

ID: 50305

Correct

Flag question

Send Feedback

AL, a 37-year-old male, is a car salesman who has been under a lot of stress at work to meet his quarterly sales quotas. He is physically drained and he has not been sleeping well. He feels like staying home since he has no motivation or desire to do anything. He has no history of substance abuse or familial history of depression. AL is not currently on any medications and he has an allergy to penicillin. His PHQ-9 score was 19 (indicating severe depression). He is started on nortriptyline 25 mg PO daily.

Which of the following medications is **LEAST** likely to interact with nortriptyline when taken concomitantly?

Select one:

a. Tranylcypromine ✖

b. Methylene blue ✖

c. Linezolid ✖

d. Apriprazole ✔

Rose Wang (ID 113212) this answer is correct. This combination may increase the risk of serotonin syndrome but it does not need to be avoided as it can be used in augmentation therapy.

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Recognize potential drug interactions with Tricyclic Antidepressants (TCAs).

BACKGROUND:

Major depressive disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well being. MDD is diagnosed using the DSM-5 criteria which identify symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality. Non-pharmacologic and pharmacologic therapy is the mainstay of treatment. Second-line therapies for depression include levomilnacipran (SNRI), moclobemide (reversible Monoamine Oxidase Inhibitors, MAOIs), quetiapine, trazodone, Tricyclic Antidepressants (TCAs) and vilazodone. TCAs include the tertiary amines amitriptyline, clomipramine, doxepin, trimipramine and imipramine, and the secondary amines desipramine and nortriptyline. Third-line antidepressants include the irreversible MAOIs phenelzine and tranylcypromine. Important considerations when selecting an antidepressant include the antidepressant side effect profile,

patient's comorbid conditions, patient preference, potential interactions with other medications, and cost and convenience. TCAs are reserved as second-line agents due to their unfavourable side effect profiles. Cardiotoxicity and the risk of fatal overdoses are major safety concerns of TCAs. This class should generally be avoided in patients at risk of intentional overdose. Common side effects of this group of agents include sedation, weight gain, sexual dysfunction, GI upset, QT prolongation, hypotension and anticholinergic effects (e.g. dry mouth, orthostatic hypotension, constipation, drowsiness, blurred vision and memory impairment). Of note, the secondary amine TCAs are generally better tolerated, in terms of side effects, compared to the tertiary amines. TCAs carry many risks of important drug interactions including anticholinergic medications, CNS depressants, serotonergic agents (e.g. SSRIs/SNRIs, linezolid, methylene blue), and MAOIs.

RATIONALE:

Correct Answer:

- **Apriprazole** - This combination may increase the risk of serotonin syndrome but it does not need to be avoided as it can be used in augmentation therapy.

Incorrect Answers:

- **Tranylcypromine** - Tranylcypromine is an irreversible MAOI which should be avoided with TCAs due to the fatal risk of serotonin syndrome.
- **Methylene blue** - Methylene blue should be avoided with TCAs due to the fatal risk of serotonin syndrome.
- **Linezolid** - Linezolid should be avoided with TCAs due to the fatal risk of serotonin syndrome.

TAKEAWAY/KEY POINTS:

TCAs are reserved for second-line treatment in depression due to their high risk of drug interactions. Many medications should be avoided while on TCAs including anticholinergic medications, CNS depressants, serotonergic agents (e.g. SSRIs/SNRIs, linezolid, methylene blue), and MAOIs.

REFERENCES:

[1] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.
[2] Yatham LN, Kennedy SH, Parikh SV, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder. Bipolar Disord. 2018;20(2):97-170. doi:10.1111/bdi.12609

The correct answer is: Apriprazole

Question 8
ID: 50306
Correct
Flag question
Send Feedback

WF is a 30-year-old female who is currently 2 months pregnant with her first child. She has no known allergies, no medical conditions, and her only current medication is a daily prenatal vitamin, recommended by her physician. She is maintaining a healthy active lifestyle and well-balanced diet. She visits your clinic today because she is experiencing symptoms that are similar to those which she experienced in a previous Major Depressive Episode (MDE). From her patient profile, you note that WF experienced a severe MDE at the age of 22. Following this MDE, WF was prescribed paroxetine CR 25 mg PO daily and successfully achieved remission. After 3 years of therapy, the paroxetine was tapered to discontinuation. She has no other personal or familial history of depression and has not tried any other antidepressant medications. After an assessment with her physician today, WF has been diagnosed with severe depression.

What is the most appropriate recommendation for the treatment of WF's depression?

Select one:

a. Initiate escitalopram ✔ *Rose Wang (ID:113212) this answer is correct. Antidepressant therapy is indicated for severe depression in pregnancy. Escitalopram is a drug of choice in pregnancy.*

b. Initiate combination therapy with sertraline and aripiprazole ✖

c. Initiate Cognitive Behavioural Therapy (CBT) ✖

d. Restart paroxetine ✖

Correct
Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Understand the efficacy and safety of options in the management of pregnant patients with depression.

BACKGROUND:

Major depressive disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which identify symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality. With the pregnant patient population, questions arise about the safety and efficacy of antidepressants to the mother and fetus, as well as general principles regarding depression in pregnancy. Depression is one of the most common complications in pregnancy and it is associated with increased rates of neonatal complications, impairments in mother-infant bonding and spontaneous abortions. Decision-making around the treatment of

depression during pregnancy should be based on a risk-benefit analysis that considers both the fetus and mother. If depressive symptoms are mild, psychotherapy is the recommended treatment option. However, if depression is moderate to severe, antidepressants at the lowest effective dosage are recommended. First-line pharmacological options for depression in pregnancy include citalopram, escitalopram, and sertraline. Second-line options include bupropion, desvenlafaxine, duloxetine, fluoxetine, fluvoxamine, mirtazapine, TCAs (except clomipramine and doxepin) and venlafaxine. Paroxetine should be avoided as it has been associated with major cardiovascular malformations. MAOIs and doxepin should also be avoided during pregnancy. It is important to counsel patients who are pregnant or planning to get pregnant with severe & recurrent depression that they should continue on their antidepressants as uncontrolled depression has been linked to adverse outcomes for the fetus.

RATIONALE:

Correct Answer:

- **Initiate escitalopram** - Antidepressant therapy is indicated for severe depression in pregnancy. Escitalopram is a drug of choice in pregnancy.

Incorrect Answers:

- **Initiate combination therapy with sertraline and aripiprazole** - Antidepressant monotherapy is indicated for severe depression in pregnancy.
- **Initiate Cognitive Behavioural Therapy (CBT)** - For severe depression in pregnancy, antidepressant therapy is first-line.
- **Restart paroxetine** - Although this medication was effective for WF in the past, paroxetine is the LEAST preferred agent in pregnancy.

TAKEAWAY/KEY POINTS:

In mild-moderate depression in pregnancy, psychotherapy is first-line while pharmacotherapy is second-line. In severe depression in pregnancy, antidepressant therapy is first-line with the drugs of choice being citalopram, escitalopram, and sertraline. The use of combination therapy should be used cautiously due to a lack of evidence in this special population.

REFERENCE:

[1] Lynette K. Are Antidepressants Safe during Pregnancy & Breastfeeding? *RxFiles Academic Detailing Program*. Available at: http://www.rxfiles.ca/rxfiles/uploads/documents/antidepressants-pregnancyandbreastfeeding-qanda.pdf.

[2] Kennedy SH, Parikh SV, Grigoriadis S. Depression. In: Compendium of Pharmaceuticals and Specialties. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca. [3] MacQueen GM, Frey BN, Ismail Z, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 6. Special Populations: Youth, Women, and the Elderly [published correction appears in *Can J Psychiatry*. 2017 May;62(5):356]. Can J Psychiatry. 2016;61(9):588-603. doi:10.1177/0706743716659276

The correct answer is: Initiate escitalopram

Question 9

ID: 50312

Correct

Flag question

Send Feedback

A 22-year-old female, SS, visits your pharmacy seeking guidance regarding the use of St. John's Wort for her depressive symptoms. She has no known allergies and a medical history that includes asthma and severe acne. Her current medication regimen consists of fluticasone 125mcg/salmeterol 25mcg 1 puff inhaled twice daily along with salbutamol 100mcg/puff 2 puffs every 4 hours as needed. Additionally, she has been taking isotretinoin at a daily dose of 40 mg for the past 8 weeks. SS reports experiencing persistent feelings of sadness and irritability over the past few weeks, which she attributes to the stress of impending final exams. Due to her study schedule, SS has not engaged in physical activity recently. On a friend's recommendation, she is seeking your guidance regarding the potential use of St. John's Wort as a remedy for her depressive symptoms.

What course of action would you recommend for addressing SS's depressive symptoms?

Select one:

- Refer SS to her prescribing physician ✔

Rose Wang (ID:113212) this answer is correct.
SS should be referred to her prescribing physician as there is very strong evidence linking isotretinoin and depression.

- Do not recommend any changes to her current therapy ✖
- Recommend SS begin St. Johns Wort for her depressive symptoms ✖
- Recommend SS increases her weekly exercise ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Recognize drug causes of depressive symptoms.

BACKGROUND:

In Canada, the lifetime prevalence of MDD is 9.9%, while the annual prevalence is 3.9%. Depression was

found to be the second leading cause of disability worldwide and is associated with many chronic medical conditions, such as heart disease, arthritis, asthma, back pain, and migraines. MDD is associated with significant impairment in quality of life and has a negative economic impact related to the medical service costs, productivity losses, and suicide-related costs.

Risk factors for depression include:

- Female gender
  - Women are found to have a higher annual prevalence of MDD (4.9%) compared to men (2.8%).
- Ages 18 to 29
- Neuroticism (negative or anxious emotional state)
- History of trauma or adverse childhood experiences*
- History of depression*
- History of depression in first-degree relatives*
  - Risk for MDD is two- to fourfold higher than that of the general population
- Chronic medical conditions (especially cardiovascular disease, diabetes, and neurological disorders)*
- Other psychiatric conditions (such as anxiety or borderline personality disorder)*
- Circumstances when there are hormonal fluctuations (e.g. peripartum period)*
- Substance abuse*
- Unexplained physical symptoms (e.g. chronic pain)*
- Chronic unexplained fatigue*
- Chronic unexplained insomnia*

Medical causes of depression:

- Substance-use disorders
- Cardiovascular diseases such as heart attack and stroke
- Neurological disorders (e.g. Parkinson's, epilepsy, Alzheimer's disease)
- Chronic pain disorders
- Endocrine disorders (e.g. hypothyroidism, diabetes)
- Anemia
- HIV/AIDS

Drug-induced causes of depression:

Drug	Association with depression
Corticosteroids	Depression is more likely to occur as a side effect of chronic long-term corticosteroid use, even on low to moderate doses. There is some evidence suggesting older patients, aged 65 or older, may be at higher risk of depression when taking systemic corticosteroids.
Isotretinoin	There is very strong evidence linking isotretinoin and depression.
Reserpine	There is some evidence behind the association between reserpine and depression. Reserpine may cause depression by reducing NT levels.
Beta-Blockers (BBs)	Depression, fatigue and sexual dysfunction are commonly cited side effects of beta blockers. It has been suggested that lipophilic beta blockers (e.g. propranolol) may be associated with higher rates of depression because of their ability to penetrate the central nervous system.
Calcium Channel Blockers (CCBs)	The evidence linking depression and CCBs is limited; however, there exist case reports implicating nifedipine, diltiazem and verapamil with depression.
Interferon alpha	There is a strong link between interferon alpha and depression, where the risk of depression ranges from 3 to 50%.
Proton pump inhibitors(PPIs)/ histamine H2 antagonists(H2RAs)	PPIs and H2RAs may increase the risk of depression with long-term use. These agents may cause depression through their effect on stomach acidity and nutrient absorption.
Finasteride	There is a fairly strong link between finasteride and depression. However, finasteride-induced depression has only been reported when it was used in alopecia. There is no literature regarding drug-induced depression in men being treated for benign prostatic hyperplasia (BPH). However, caution is warranted when finasteride is being used for BPH since the doses in BPH are five times higher than for alopecia. Dutasteride, another agent of the 5-alpha reductase inhibitor class, does not show depressive side effects.
Varenicline	There is moderate evidence linking varenicline and depression, particularly within the first few weeks of therapy.

RATIONALE:

Correct Answer:

- **Refer SS to her prescribing physician** - SS should be referred to her prescribing physician as there is very strong evidence linking isotretinoin and depression.

Incorrect Answers:

- **Do not recommend any changes to her current therapy** - SS may need to discontinue her isotretinoin as it may be contributing to her depressive symptoms.
- **Recommend SS begin St. Johns Wort for her depressive symptoms** - This is not the correct recommendation as SS's depressive symptoms may be caused by isotretinoin.
- **Recommend SS increases her weekly exercise** - This is not the most correct recommendation as SS should have her isotretinoin assessed by her physician as it may be the cause of her depressive symptoms.

TAKEAWAY/KEY POINTS:

Isotretinoin has a very strong link to causing depression, so should always be considered as a potential drug-induced cause of depression.

REFERENCES:

[1] Lynette K. Are Antidepressants Safe during Pregnancy & Breastfeeding? *RxFiles Academic Detailing Program*. Available at: http://www.rxfiles.ca/rxfiles/uploads/documents/antidepressants-pregnancyandbreastfeeding-qanda.pdf.
[2] Kennedy SH, Parikh SV, Grigoriadis S. Depression. In: Compendium of Pharmaceuticals and Specialties. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.
[3] MacQueen GM, Frey BN, Ismail Z, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 6. Special Populations: Youth, Women, and the Elderly [published correction appears in *Can J Psychiatry*. 2017 May;62(5):356]. Can J Psychiatry. 2016;61(9):588-603. doi:10.1177/0706743716659276

The correct answer is: Refer SS to her prescribing physician

Question 10
ID: 50314
Correct
Flag question
Send Feedback

A 62-year-old male patient, BT, visits your clinic with complaints of persistent sadness, fatigue, and a loss of interest in his usual activities. He is wondering if any of his medications could be contributing to his decreased mood. He has a history of constipation, alcohol use disorder, hypothyroidism, and chronic pain. His medications include polyethylene glycol 3350 17 g PO daily, levothyroxine 100 mcg PO daily, and oxycodone 5 mg PO q4h PRN for pain. Additionally, BT acknowledges his past struggle with excessive alcohol consumption and reports regularly attending support group meetings to maintain his sobriety.

Which of the following factors is **NOT** likely to be a contributor to his depression?

Select one:

- Hypothyroidism ✖
- Alcohol-use disorder ✖
- Chronic pain ✖
- Constipation ✔

Rose Wang (ID:113212) this answer is correct.
Constipation is the least likely contributing factor to depression.

Correct
Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Identify potential medical causes of depression.

BACKGROUND:

In Canada, the lifetime prevalence of MDD is 9.9%, while the annual prevalence is 3.9%. Depression was found to be the second leading cause of disability worldwide and is associated with many chronic medical conditions, such as heart disease, arthritis, asthma, back pain, and migraines. MDD is associated with significant impairment in quality of life and has a negative economic impact related to the medical service costs, productivity losses, and suicide-related costs.

Risk factors for depression include:

- Female gender
  - Women are found to have a higher annual prevalence of MDD (4.9%) compared to men (2.8%).
- Ages 18 to 29
- Neuroticism (negative or anxious emotional state)
- History of trauma or adverse childhood experiences*
- History of depression*

- History of depression
- History of depression in first-degree relatives*
  - Risk for MDD is two- to fourfold higher than that of the general population
- Chronic medical conditions (especially cardiovascular disease, diabetes, and neurological disorders)*
- Other psychiatric conditions (such as anxiety or borderline personality disorder)*
- Circumstances when there are hormonal fluctuations (e.g. peripartum period)*
- Substance abuse*
- Unexplained physical symptoms (e.g. chronic pain)*
- Chronic unexplained fatigue*
- Chronic unexplained insomnia*

Medical causes of depression:

- Substance-use disorders
- Cardiovascular diseases such as heart attack and stroke
- Neurological disorders (e.g. Parkinson's, epilepsy, Alzheimer's disease)
- Chronic pain disorders
- Endocrine disorders (e.g. hypothyroidism, diabetes)
- Anemia
- HIV/AIDS

Drug-induced causes of depression:

Drug	Association with depression
Corticosteroids	Depression is more likely to occur as a side effect of chronic long-term corticosteroid use, even on low to moderate doses. There is some evidence suggesting older patients, aged 65 or older, may be at higher risk of depression when taking systemic corticosteroids.
Isotretinoin	There is very strong evidence linking isotretinoin and depression.
Reserpine	There is some evidence behind the association between reserpine and depression. Reserpine may cause depression by reducing NT levels.
Beta-Blockers (BBs)	Depression, fatigue and sexual dysfunction are commonly cited side effects of beta blockers. It has been suggested that lipophilic beta blockers (e.g. propranolol) may be associated with higher rates of depression because of their ability to penetrate the central nervous system.
Calcium Channel Blockers (CCBs)	The evidence linking depression and CCBs is limited; however, there exist case reports implicating nifedipine, diltiazem and verapamil with depression.
Interferon alpha	There is a strong link between interferon alpha and depression, where the risk of depression ranges from 3 to 50%.
Proton pump inhibitors(PPIs)/ histamine H2 antagonists(H2RAs)	PPIs and H2RAs may increase the risk of depression with long-term use. These agents may cause depression through their effect on stomach acidity and nutrient absorption.
Finasteride	There is a fairly strong link between finasteride and depression. However, finasteride-induced depression has only been reported when it was used in alopecia. There is no literature regarding drug-induced depression in men being treated for benign prostatic hyperplasia (BPH). However, caution is warranted when finasteride is being used for BPH since the doses in BPH are five times higher than for alopecia. Dutasteride, another agent of the 5-alpha reductase inhibitor class, does not show depressive side effects.
Varenicline	There is moderate evidence linking varenicline and depression, particularly within the first few weeks of therapy.

RATIONALE:

Correct Answer:

- **Constipation** - Constipation is the least likely contributing factor to depression.

Incorrect Answers:

- **Hypothyroidism** - Endocrine disorders, such as hypothyroidism, are a known medical cause of depression.
- **Alcohol-use disorder** - Substance use disorders are known medical causes of depression.
- **Chronic pain** - Chronic pain is a known medical cause of depression.

TAKEAWAY/KEY POINTS:

Medical causes of depression include: substance-use disorders, cardiovascular diseases, neurological disorders, chronic pain disorders, endocrine disorders, anemia, and HIV/AIDS.

REFERENCES:

[1] Yatham LN, Kennedy SH, Parikh SV, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder. Bipolar Disord. 2018;20(2):97-170. doi:10.1111/bdi.12609
[2] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.

The correct answer is:
Constipation

Finish review